

## DESCRIPTION OF TABLES AND CHARTS.

Table I gives the data ordinarily needed for climatological studies for about 158 Weather Bureau stations making simultaneous observations at 8 a. m. and 8 p. m. daily, 75th meridian time, and for about 41 others making only one observation. The altitudes of the instruments above ground are also given.

Table II gives a record of precipitation, the intensity of which at some period of the storm's continuance equaled or exceeded the following rates:

Duration (minutes).....	5	10	15	20	25	30	35	40	45	50	55	60
Rates per hour (inches)....	3.00	1.80	1.40	1.20	1.08	1.00	0.94	0.90	0.87	0.84	0.80	

It is impracticable to make this table sufficiently wide to accommodate on one line the record of accumulated falls that continue at an excessive rate for several hours. In this case the record is broken at the end of each 50 minutes, the accumulated amounts being recorded on successive lines until the excessive rate ends.

In cases where no storm of sufficient intensity to entitle it to place in the full table has occurred, the greatest precipitation of any single storm has been given; also the greatest hourly fall during that storm.

The tipping-bucket mechanism is *dismounted* and removed when there is danger of snow or water freezing in the same. Table II records this condition by entering an asterisk (\*).

Table III gives, for about 30 stations of the Canadian Meteorological Service, the means of pressure and temperature, total precipitation and depth of snowfall, and the respective departures from normal values except in the case of snowfall. The sealevel pressures have been computed at Washington by the method employed for reducing United States observations and described by Prof. F. H. Bigelow in this REVIEW, January, 1902, pages 13-16; the altitudes are those furnished us on January 1, 1916.

Chart I.—*Hydrographs* for several of the principal rivers of the United States.

Chart II.—*Tracks of centers of HIGH areas*; and

Chart III.—*Tracks of centers of LOW areas*. The roman numerals show the chronological order of the centers. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the observations at 8 a. m. and 8 p. m., 75th meridian time. Within each circle is also given (Chart II) the last three figures of the highest barometric reading, or (Chart III) the lowest reading reported at or near the center at that time, and in both cases as reduced to sealevel and standard gravity.

Chart IV.—*Temperature departures*. This chart presents the departures of the monthly mean surface temperatures from the monthly normals. The normals used in computing the departures were computed for a period of 33 years (1873 to 1905) and are published in Weather Bureau Bulletin R, Washington, 1908. Stations whose records were too short to justify the preparation of normals in 1908, have been provided with normals as adequate records became available, and all have been reduced to the 33-year interval 1873-1905. The shaded portions of the chart indicate areas of positive departures and unshaded portions indicate areas of negative departures. Generalized lines connect places having approximately equal departures of like sign. This chart of monthly surface temperature departures in the United

States was first published in the MONTHLY WEATHER REVIEW for July, 1909.

Chart V.—*Total precipitation*. The scale of shades showing the depth is given on the chart. Where the monthly amounts are too small to justify shading and over sections of the country where stations are too widely separated or the topography is too diversified to warrant reasonable accuracy in shading, the actual depths are given for a limited number of representative stations. Amounts less than 0.005 inch are indicated by the letter T, and no precipitation by 0.

Chart VI.—*Percentage of clear sky between sunrise and sunset*. The average cloudiness at each Weather Bureau station is determined by numerous personal observations between sunrise and sunset. The difference between the observed cloudiness and 100 is assumed to represent the percentage of clear sky, and the values thus obtained are the basis of this chart. The chart does not relate to the nighttime.

Chart VII.—*Isobars and isotherms at sealevel, and prevailing wind directions*. The pressures have been reduced to sealevel and standard gravity by the method described by Prof. Frank H. Bigelow on pages 13-16 of the REVIEW for January, 1902. The pressures have also been reduced to the mean of the 24 hours by the application of a suitable correction to the mean of the 8 a. m. and 8 p. m. readings at stations taking two observations daily, and to the 8 a. m. or the 8 p. m. observation, respectively, at stations taking but a single observation. The diurnal corrections so applied will be found in the Annual Report of the Chief of the Weather Bureau, 1900-1901, volume 2, Table 27, pages 140-164.

The isotherms on the sealevel plane have been constructed by means of the data summarized in chapter 8 of volume 2 of the annual report just mentioned. The correction  $t_0 - t$ , or temperature on the sealevel plane minus the station temperature as given by Table 48 of that report, is added to the observed surface temperature to obtain the adopted sealevel temperature.

The prevailing wind directions are determined from hourly observations at the great majority of the stations. A few stations having no self-recording wind-direction apparatus determine the prevailing direction from the daily or twice-daily observations only.

Chart VIII.—*Total snowfall*. This is based on the reports from regular and cooperative observers and shows the depth in inches of the snowfall during the month. In general, the depth is shown by lines inclosing areas of equal snowfall, but in special cases figures are also given. Chart VIII is published only when the general snow cover is sufficiently extensive to justify its preparation.

Chart IX.—Average values of pressure, air and surface water temperatures, and prevailing wind directions, and storm tracks over the North Atlantic Ocean for the corresponding month of last year.

Chart X.—Presents annually the tracks of *hurricanes of the year*; tracks of the same month are all in one color. This chart was first published in the issue for September, 1916.

Chart XI.—Presents annually, by means of a dot for each report, the *frequency of earthquakes* in the United States during the year. This chart was first published in the issue for December, 1915.

TABLE I.—Climatological data for Weather Bureau Stations, January, 1918.

Districts and stations.	Elevation of instruments.			Pressure.			Temperature of the air.						Precipitation.			Wind.			Maximum velocity.			Average cloudiness, tenths.			Snow on ground at end of month.								
	Barometer above sea-level.	Thermometer above ground.	Anemometer above ground.	Ft.	Ft.	In.	In.	In.	° F.	° F.	° F.	° F.	° F.	° F.	° F.	° F.	%	In.	In.	Miles	Total movement.	Precipitation direction.	Miles per hour.	Clear days.	Partly cloudy days.	Cloudy days.	In.	In.					
				Station, reduced to mean of 24 hours.	Sealevel, reduced to mean of 24 hours.	Departure from normal.	Mean max.+mean min.+2.	Maximum.	Departure from normal.	Mean maximum.	Minimum.	Mean minimum.	Departure from normal.	Mean maximum.	Minimum.	Mean minimum.	Mean wet thermometer.	Mean temperature of the dew point.	Days with 0.01 inch or more.	Total.	Departure from normal.	Days with 0.01 inch.	Direction.	Date.	0-10	11-20	21-30	Total snowfall.					
New England.							17.0	-7.4								75	2.75	-0.30								5.9							
Eastport.	76	67	85	29.64	29.73	-0.27	15.4	-4.7	42	12	22-11	23	9	32	14	11	81	2.88	-1.0	14	10,029	w.	62	e.	15	6	14	6.1	22.0	18.5			
Greenville.	1,070	6	23.55	29.77			6.4		34	13	16-23	23	8	36	12	6	70	2.49									25.0	33.0					
Portland, Me.	103	82	117	29.69	29.82	-23	15.0	-7.0	42	12	22-20	24	8	27	12	6	70	3.48	-0.3	11	6,529	nw.	47	se.	12	14	5	12	5.2	16.7	16.0		
Concord.	288	70	79	29.50	29.84	-21	13.3	-7.9	47	12	22-14	23	4	33	12	6	65	-1.7		10	4,577	nw.	31	se.	12	14	5	12	4.2	17.8	19.0		
Burlington.	404	11	48	29.45	29.88	-17	9.0	-7.3	38	12	16-24	23	2	34	12	6	73	1.73	-0.1	12	7,720	s.	56	se.	12	13	5	15	6.9	19.4	15.5		
Northfield.	878	12	60	28.87	29.86	-19	6.1	-9.6	37	12	17-34	23	2	37	4	1	85	1.85	-0.6	9	4,920	s.	31	sw.	13	4	6	21	7.8	21.5	26.5		
Boston.	125	115	188	29.68	29.82	-23	21.0	-6.0	51	12	22-26	23	1	14	26	18	69	3.11	-0.7	11	8,955	w.	38	e.	12	11	5	13	5.5	13.8	4.6		
Nantucket.	12	14	90	29.80	29.80	-24	24.0	-8.1	49	12	30	5	2	18	19	22	76	2.71	-0.7	11	13,327	w.	60	s.	15	14	12	6.4	15.0	4.0			
Block Island.	26	11	46	29.80	29.83	-24	22.9	-8.5	51	12	22-26	23	2	19	24	17	78	2.80	-1.1	10	7,786	w.	60	se.	12	8	5	18	6.9	6.3	3.0		
Narragansett Pier.	9						20.1	-8.3	48	12	22-28	23	5	24	13	24	17	76	3.32		10	9,598	nw.	71	so.	12	8	13	10	5.4	7.0	1.9	
Providence.	160	215	29.65	29.84	-22	20.3	-6.9	51	12	27	27	1	2	13	24	17	9	69	3.28	-0.6	11	5,802	nw.	32	sw.	13	8	14	9	4.9	13.2	9.0	
Hartford.	159	122	140	29.69	29.87	-20	17.4	-8.1	51	12	25	28	2	19	21	17	78	2.80	-1.1	12	7,786	n.	47	se.	12	9	12	10	5.4	10.3	3.4		
New Haven.	106	117	155	29.75	29.87	-21	19.8	-7.5	50	12	27	27	7	1	12	30	16	10	70	3.61	-0.3	12											
Middle Atlantic state							22.7	-8.9								73	4.06	+0.7													5.9		
Albany.	97	102	115	29.79	29.90	-0.17	14.0	-8.5	47	12	22-11	21	2	6	31	12	8	78	2.57	0.0	9	5,174	nw.	30	s.	12	13	6	12	5.3	13.0	11.0	
Binghamton.	871	10	69	28.91	29.88	-20	14.0	-9.1	46	12	22	24	2	6	43	12	6	70	2.32	+0.3	15	4,503	sw.	25	sw.	12	11	9	11	5.4	23.1	11.9	
New York.	314	414	484	29.54	29.90	-20	21.6	-8.6	50	12	26	26	5	1	14	34	15	11	66	4.31	-0.4	11	15,957	nw.	84	se.	12	8	10	13	6.2	13.6	4.6
Harrisburg.	374	94	104	29.53	29.95	-15	18.1	-9.6	42	12	26	28	8	20	12	35	16	11	73	5.69	+2.9	15	5,503	s.	36	w.	12	10	7	14	5.7	31.0	22.0
Philadelphia.	117	123	190	29.80	29.94	-17	24.2	-7.6	57	12	26	26	1	2	18	39	22	16	73	4.06	+0.6	12	8,103	dw.	43	s.	12	9	5	17	6.5	27.0	13.2
Reading.	325	81	98	29.57	29.95	-19	19.8		54	12	26	26	1	4	13	45	17	13	77	4.63	+1.1	16	5,886	dw.	35	sw.	12	11	2	18	6.4	22.6	11.5
Scranton.	805	111	119	29.02	29.92	-17	17.4	-8.1	51	12	31	31	0	3	10	41	15	11	78	4.71	+1.9	16	6,283	sw.	34	sw.	12	9	8	14	6.0	22.4	4.8
Atlantic City.	52	37	48	29.86	29.92	-19	24.4	-8.1	51	12	31	31	0	3	10	48	27	17	75	4.34	+0.9	13	8,795	dw.	36	s.	12	10	5	13	5.6	20.5	14.2
Cape May.	18	13	49	29.96	29.96	-16	25.6	-8.5	51	12	31	31	3	4	16	26	21	17	75	3.54	+0.2	12	7,967	dw.	52	w.	12	11	9	11	5.7	18.5	13.3
Sandy Hook.	22	10	57	29.88	29.90		21.6		51	12	26	26	1	4	16	33	19	14	72	3.54		13	14,932	w.	66	s.	12	9	10	12	5.7	9.4	2.8
Trenton.	100	159	183	29.70	29.91		20.4		54	12	27	27	1	1	14	39	18	14	78	3.00	-0.2	12	10,389	dw.	64	s.	12	9	5	17	6.0	19.3	8.6
Baltimore.	123	100	113	29.82	29.96	-16	24.2	-8.2	50	12	30	30	1	4	18	38	21	16	75	5.00	+1.8	15	5,687	sw.	46	se.	12	8	15	16	6.2	21.0	14.8
Washington.	112	62	85	29.82	29.95	-23	23.7	-9.2	50	12	30	30	1	1	18	34	20	14	69	4.29	+0.9	14	5,425	dw.	28	w.	15	9	7	15	6.2	22.6	11.6
Lynchburg.	681	153	188	29.17	29.94	-19	27.0	-8.8	50	26	35	35	0	21	19	31	23	17	68	4.47	+0.7	13	5,143	w.	30	nw.	15	10	11	11	5.9	19.6	7.9
Norfolk.	91	170	201	29.85	29.95	-18	31.6	-8.3	63	12	39	39	5	4	24	39	22	22	72	2.77	-0.6	13	9,978	w.	67	se.	12	11	12	13	5.5	9.1	0.0
Ridgmon.	144	11	52	29.80	29.96	-17	28.0	-10.0	60	12	36	36	-1	4	20	46	24	19	73	5.81	+2.8	14	6,538	sw.	60	sw.	12	9	12	13	6.9	14.4	2.6
Wytheville.	2,283	49	53	27.46	29.97	-17	22.6	-10.4	49	27	31	36	-1	2	21	14	36	20	17	84	4.32		48	w.	15	11	5	15	6.1	19.2	6.0		
South Atlantic States.							38.6	-6.6								76	2.76	-1.0													3.2		
Asheville.	2,255	70	84	27.51	29.97	-0.18	28.8	-6.6	58	26	37	37	-2	13	20	31	25	22	80	4.56	-0.1	16	7,435	nw.	35	n.	12	8	8	15	6.3	11.1	0.0
Charlotte.	773	153	161	29.10	29.96	-19	32.4	-8.0	56	25	41	41	6	13	24	35	29	24	77	3.82	-0.5	14	8,019	sw.	60	sw.	11	13	5	13	6.4	1.5	0.0
Hatteras.	11	12	50	29.93	29.94	-20	37.6	-8.2	62	12	45	41	11	4	30	32	34	31	85	1.78	-0.2	10	12,487	w.	72	sw.	15	8	10	13	6.4	2.4	0.0
Manteo.	12	4	46				34.4									4	20	24	76	2.20	-2.4	10											
Raleigh.	376	103	110	29.54	29.96	-17	32.4	-8.0	65	11	41	41	6	4	24	47	28	24	76	4.80	+1.2	14	5,955	n.	52	w.	15	10	9	12	5.3	5.7	0.0
Wilmington.	78	81	91	29.59	29.98	-16	39.3	-6.3	63	12	49	49	11	4	30	36	34	29	73	1.71	-3.3	12	6,249	w.	47	s.	11	15	4	12	4.8	0.1	0.0
Charleston.	48	11	92	29.94	29.99	-16	42.4	-6.9	73	27	51	51	18	13	34	31	37	32	75	1.13	-2.3	11	8,087	w.	47	s.	11	13	4				

## MONTHLY WEATHER REVIEW.

JANUARY, 1918

TABLE I.—Climatological data for Weather Bureau Stations, January, 1918—Continued.

Districts and stations.	Elevation of instruments.		Pressure.		Temperature of the air.												Precipitation.		Wind.		Maximum velocity.											
	Baometer above sea level.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sealevel, reduced to mean of 24 hours.	Departure from normal.	Mean max. + mean min. + 2.	Departure from normal.	Maximum.	Mean maximum.	Minimum.	Departure from normal.	Mean minimum.	Greatest daily range.	Mean relative humidity.	Total.	In.	Days with 0.01 inch or more.	Miles	Total movement.	Prevailing direction.	Miles per hour.	Date.	Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Show on ground at end of month.			
	Fl.	Fl.	Fl.	In.	In.	In.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	%	In.	In.															
<i>Ohio Valley and Tennessee.</i>							21.1	-12.1								82	4.55	+0.7														
Chattanooga.....	762	189	213	29.15	29.99	-0.17	32.0	-8.6	67	28	39	-1	12	25	34	29	73	7.37	+1.8	20	6,320	w.	44	w.	11	8	5	18	6.7	9.9	0.0	
Knoxville.....	906	102	111	28.87	29.96	-19	29.2	-8.3	65	28	36	-2	12	25	33	29	64	6.2	+1.6	17	5,741	sw.	38	sw.	11	4	10	17	6.9	11.9	0.0	
Memphis.....	323	76	97	29.60	30.04	-12	27.6	-12.2	62	5	35	-8	12	29	31	25	50	5.02	-0.2	13	5,550	n.	48	nw.	14	13	3	15	5.6	13.9	0.0	
Nashville.....	516	168	191	29.40	30.00	-16	26.4	-11.6	56	26	35	-10	12	29	34	24	20	7.43	+2.6	13	7,613	nw.	43	nw.	11	7	11	13	6.5	18.5	T.	
Lexington.....	939	193	230	28.86	29.99	-14	19.8	-13.2	47	26	27	-14	12	28	26	4	4.46	+0.6	21	10,801	sw.	42	sw.	12	7	9	15	6.2	21.7	3.0		
Louisville.....	525	219	255	28.38	30.00	-14	19.6	-14.7	46	27	25	-15	12	27	36	18	15	80	3.49	-0.4	14	9,796	sw.	49	sw.	12	8	15	24.6	9.5		
Evansville.....	431	139	175	29.49	29.98	-16	19.4	-12.9	49	26	28	-16	12	21	33	17	82	5.00	+1.3	16	6,040	sw.	43	sw.	11	4	16	11	6.2	41.0	9.5	
Indianapolis.....	822	184	230	29.02	29.95	-17	14.6	-15.7	43	6	22	-19	12	7	33	13	9	79	3.89	+0.1	12	10,052	w.	46	w.	11	7	12	12	6.2	22.0	5.0
Terre Haute.....	575	96	129	29.31	29.96	-16	14.8	-11.9	43	6	23	-18	12	8	32	15	13	88	4.30	+0.9	18	7,327	sw.	36	sw.	12	6	10	14	6.7	20.2	7.5
Cincinnati.....	628	111	51	29.26	29.96	-16	16.3	-14.0	45	6	24	-16	12	8	32	15	10	78	3.51	+0.6	17	9,920	sw.	48	w.	12	6	10	15	6.5	25.4	7.0
Columbus.....	824	173	223	28.03	29.95	-17	15.8	-12.8	42	6	23	-13	12	8	26	14	10	84	4.46	+0.4	18	9,185	sw.	45	w.	12	8	12	11	6.3	24.4	13.0
Dayton.....	499	181	216	29.07	29.92	-15	15.0	-13.9	43	6	23	-13	12	7	29	14	11	84	3.46	+0.4	17	9,185	sw.	58	w.	12	4	2	3	26	10.6	2.6
Pittsburgh.....	842	353	410	29.00	29.94	-17	18.0	-12.1	41	11	26	-5	12	11	45	18	13	80	2.83	0.0	18	9,878	sw.	37	sw.	12	6	5	20	7.5	17.2	2.1
Elkins.....	1,940	59	67	27.73	29.96	-16	20.7	-8.3	50	26	30	-15	12	6	46	18	16	86	5.11	+1.8	5,140	w.	38	sw.	15	2	3	26	8.5	19.6	2.6	
Parkersburg.....	638	77	84	29.29	29.97	-15	20.3	-11.0	49	6	29	-10	21	12	45	18	15	83	2.24	-1.0	20	3,428	sw.	26	sw.	12	6	5	20	7.5	17.2	2.1
<i>Lower Lakes Region.</i>							13.4	-10.4								83	2.88	+0.2													6.8	
Buffalo.....	767	247	260	20.02	29.89	-0.18	14.1	-10.6	40	12	21	-6	13	8	46	12	10	86	5.64	+2.3	22	16,759	w.	88	w.	12	6	9	16	6.7	40.8	24.0
Canton.....	418	10	61	29.38	29.88	-18	7.5	-8.8	39	12	15	-30	28	0	36	22	7.37	-0.8	17	8,588	w.	48	w.	12	11	6	14	5.8	22.3	16.1		
Oswego.....	335	78	99	29.51	29.89	-18	14.0	-9.9	23	12	20	-8	2	8	32	14	11	86	1.69	-1.5	13	10,145	sw.	41	sw.	12	3	20	19	7.6	28.3	18.5
Rochester.....	523	97	113	29.31	29.91	-16	14.8	-9.2	40	12	21	-8	13	8	41	13	9	80	2.25	-0.9	18	9,586	sw.	43	w.	12	9	4	18	6.8	27.1	11.0
Syracuse.....	597	97	113	29.28	29.91	-16	14.2	-8.8	42	12	21	-9	13	8	39	12	10	86	1.51	+1.5	17	9,149	sw.	37	sw.	10	3	13	15	7.1	31.0	11.5
Erie.....	714	130	166	29.10	29.91	-17	15.0	-8.5	37	6	21	-8	12	8	44	13	10	80	2.60	+0.2	18	11,424	sw.	52	sw.	12	3	11	17	7.4	13.6	6.5
Cleveland.....	762	190	201	29.07	29.93	-16	15.0	-11.2	40	6	21	-12	12	7	45	12	9	85	3.65	+1.7	15	13,239	sw.	48	sw.	12	5	11	15	6.5	23.0	11.3
Sandusky.....	629	62	103	29.21	29.93	-16	14.6	-11.7	40	6	21	-12	12	7	45	12	9	80	2.77	+0.7	17	11,727	sw.	51	sw.	12	5	11	15	6.5	26.2	11.8
Toledo.....	628	208	243	29.22	29.94	-15	13.7	-11.9	38	25	21	-15	12	7	43	12	9	85	3.65	+1.7	15	9,017	sw.	44	sw.	12	6	13	12	5.9	26.4	13.5
Fort Wayne.....	856	113	124	28.97	29.94	-15	11.4	-12.9	37	25	19	-24	12	4	28	12	5	21	0.29	+0.5	13	9,518	sw.	42	sw.	12	6	8	17	6.8	25.1	16.3
Detroit.....	730	218	245	29.08	29.91	-17	13.2	-11.1	36	6	20	-16	12	6	42	11	9	84	2.53	+0.6	13	11,617	sw.	66	sw.	12	8	10	13	6.4	18.6	9.0
<i>Upper Lakes Region.</i>							8.5	-9.8								85	2.56	+0.6													6.9	
Alpena.....	609	13	93	29.18	29.88	-0.16	8.2	-10.5	25	11	16	-17	31	1	31	8	5	86	1.41	-0.8	13	8,598	nw.	35	e.	28	3	15	13	6.5	21.5	15.0
Escanaba.....	612	54	60	29.21	29.91	-14	6.7	-7.8	25	5	13	-19	31	1	27	6	4	91	1.13	-0.4	15	7,183	nw.	36	n.	7	11	8	12	5.9	12.8	11.0
Grand Haven.....	633	54	92	29.13	29.90	-17	13.2	-11.2	32	25	19	-11	32	7	25	12	9	99	2.02	+0.2	19	10,261	sw.	45	s.	12	3	20	19	7.6	36.3	24.4
Houghton.....	767	70	87	29.10	29.91	-15	12.5	-11.3	32	25	18	-14	12	7	35	11	8	83	3.24	+0.5	20	5,548	sw.	27	ne.	12	4	11	17	7.3	45.0	18.0
Lansing.....	878	11	62	28.82	29.90	-14	10.2	-8.8	32	25	18	-17	12	2	38	8	5	86	2.08	0.0	15	12,235	sw.	32	sw.	12	2	23	23	6.9	22.7	12.5
Ludington.....	637	60	66	29.17	29.93	-11	8.8	-7.1	24	5	15	-19	31	7	21	12	10	88	3.21	+0.6	20	9,235	sw.	38	sw.	12	3	11	16	7.4	50.1	18.0
Marquette.....	734	77	111	29.09	29.93	-11	8.8	-7.1	24	5	15	-19	31	3	20	7	4	88	4.77	+2.7	20	9,880	sw.	52	sw.	12	8	11	12	5.9	19.6	11.8
Port Huron.....	639	70	120	29.17	29.90	-16	10.9	-10.9	36	8	18	-15	12	4	44	9	6	88	1.74	-0.2	14	9,449	sw.	43	sw.	12	3	9	19	7.8	21.7	22.0
Saginaw.....	641	48	82	29.16	29.90	-13	10.4	-10.2	30	25	18	-15	12	3	40	9	6	82	2.18	-0.1	14	8,305	w.	43	s.	25	7	4	20	7.3	12.1	17.4
Sault Ste. Marie.....	614	11	61	29.16	29.90	-13	3.2	-10.1	20	5	11	-22	31	5	33	3	-1	83	0.99	-1.2	17	5,952	e.	41	nw.	25	7	15	6.1	42.5	23.8	
Chicago.....	823	140	310	29.01	29.95	-15	13.3	-10.4	35	25	20	-14	12	7	26	13	12															

TABLE I.—Climatological data for Weather Bureau Stations, January, 1918—Continued.

Districts and stations.	Elevation of instruments.		Pressure.				Temperature of the air.						Precipitation.				Wind.				Average cloudiness, tenths.		Total snowfall.						
	Barometer above sea level,	Thermometer above ground,	Ft.	In.	In.	In.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	Mean minimum.	Greatest daily range.	Total.	Days with 0.01 inch or more.	Total movement.	Miles per hour.	Maximum velocity.	Cloudy days.	Clear days.	Party cloudy days.	Snow on ground at end of month.			
			Ft.	In.	Ft.	In.	Mean max. + mean min. + 2.	Mean max. - mean min. - 2.	Departure from normal.	Minimum.	Date.	Mean maximum.	Mean minimum.	Mean minimum.	Mean relative humidity.	Mean wet thermometer.	Mean temperature of the dew point.	In.	In.	Miles.	Direction.	Rate.							
<i>Northern Slope.</i>																													
Billings.	3,140	5	16.6	.....	16.1	-2.9	53	2	26	31	8	39	2.00	78	2.00	12	6	17	8	... 0-10	6.5	In.	In.	23.0	8.0				
Havre.	2,505	11	27.36	30.15	+0.05	10.8	-2.7	59	2	19	31	3	52	9	7	86	1.19	+0.5	13	6,031	sw.	39	w.	22	6.5	11.9	7.3		
Helema.	4,110	87	25.75	30.10	-0.6	21.0	+1.0	59	1	29	31	13	32	18	14	75	1.07	+0.2	16	5,568	sw.	42	sw.	4	3	12	16		
Kalispell.	2,963	11	34	26.92	30.10	-0.2	21.8	+2.2	45	28	31	15	39	21	19	89	1.82	+0.2	19	3,162	nw.	34	ne.	29	3	6	22		
Miles City.	2,371	48	27.50	30.18	+0.7	10.8	-3.7	49	2	19	31	2	32	9	7	84	1.32	+0.7	16	4,519	nw.	43	s.	22	8	17	6		
Rapid City.	3,259	50	26.54	30.16	+0.6	13.2	-8.3	60	1	24	28	30	3	42	11	6	73	1.25	+0.8	13	6,807	n.	40	nw.	23	7	11	13	
Cheyenne.	6,083	84	21.81	30.00	-0.6	19.8	-5.8	59	2	16	31	10	46	16	10	67	0.47	+0.1	10	3,314	nw.	61	w.	24	5	17	9		
Lander.	5,373	60	24.52	30.10	-0.2	16.8	-6.0	64	1	30	31	3	48	12	6	66	1.02	+0.6	6	2,956	sw.	36	w.	29	9	16	6		
Sheridan.	3,700	10	27.46	30.08	-0.4	15.6	-2.7	58	2	27	32	31	4	53	13	10	81	2.21	...	19	4,103	nw.	38	s.	8	4	9	18	
Yellowstone Park.	8,200	11	48.23	27.75	30.10	-0.4	16.2	-1.4	47	1	25	32	31	4	53	14	11	78	1.68	-0.3	22	4,887	sw.	32	sw.	3	6	8	16
North Platte.	2,621	11	51	27.03	30.11	-0.1	14.8	-6.6	66	3	26	25	11	3	45	12	8	78	0.54	+0.1	11	6,175	w.	29	n.	10	8	11	13
<i>Middle Slope.</i>																													
Denver.	5,297	106	24.58	30.01	-0.4	24.6	-4.5	65	3	36	31	13	45	19	12	65	0.50	+0.2	9	5,900	se.	35	nw.	23	10	13	8		
Pueblo.	4,685	80	25.17	30.03	-0.3	22.8	-6.3	71	1	37	15	11	45	19	13	69	0.61	+0.3	8	4,284	nw.	37	nw.	29	11	7	13		
Concordia.	1,397	50	28.58	30.09	-0.5	15.3	-9.1	60	1	26	20	11	4	40	13	11	86	0.85	+0.1	5	6,739	nw.	31	nw.	12	9	10	12	
Dodge City.	2,500	11	51	27.35	30.07	-0.6	21.1	-6.2	67	4	33	19	11	41	16	10	67	0.80	+0.3	6	7,926	n.	38	n.	15	9	7	9.3	
Wichita.	1,358	139	155	28.34	30.05	-0.8	19.4	-10.3	64	1	29	14	11	40	17	14	82	0.89	+0.1	5	9,731	n.	39	nw.	6	17	8	4.2	
Altus.	1,410	5	23.7	30.00	-0.6	21.2	-6.3	68	2	36	11	12	46	16	11	50	0.61	...	4	...	n.	20	2	9	...	4.0	T.		
Muskogee.	659	4	25.0	30.05	-0.6	25.0	-9.7	63	26	35	7	11	46	21	17	78	0.56	-0.4	9	...	n.	10	15	10	6	4.2	7.6		
Oklahoma.	1,214	10	47	28.71	30.05	-0.6	25.0	-9.7	63	26	35	7	11	46	21	17	78	0.56	-0.4	6	10,966	n.	48	n.	10	15	10	6	
<i>Southern Slope.</i>																													
Abilene.	1,738	10	52	28.15	30.01	-0.8	36.6	-6.0	75	25	50	1	11	23	47	29	21	59	0.91	0.0	6	8,629	n.	43	sw.	13	9	7	8.8
Amarillo.	3,676	10	49	26.16	30.01	-0.5	30.7	-3.2	74	3	44	-8	11	17	31	24	19	73	1.01	+0.4	7	8,328	nw.	40	n.	10	24	3	4.7
Del Rio.	944	64	71	29.00	30.01	-0.5	46.4	-8.8	85	26	61	12	11	32	56	19	0.05	-0.8	2	5,231	e.	54	nw.	10	21	6	4.6		
Roswell.	3,506	75	85	26.28	29.98	-0.8	32.8	-6.4	75	3	49	-8	22	18	52	26	14	52	0.73	+0.2	5	6,162	s.	48	nw.	15	15	8	4.3
<i>Southern Plateau.</i>																													
El Paso.	3,762	110	133	26.13	29.96	-0.05	41.5	-2.6	69	4	53	8	2	30	36	34	24	54	1.20	+0.7	6	8,701	w.	56	w.	9	21	6	4.2
Santa Fe.	7,013	57	23.07	29.98	-0.8	26	-2.3	59	2	36	-1	21	16	33	22	17	74	1.63	+1.0	11	6,004	n.	34	s.	9	12	14	5.1	
Flagstaff.	6,908	8	57	23.23	29.04	-1.1	25.4	-1.3	62	3	49	-13	28	11	48	13	23	0.7	0.6	6	7,723	w.	37	e.	6	17	10	4.5	
Phoenix.	1,108	78	81	28.80	29.98	-0.5	49.6	-8.4	80	1	64	27	23	36	42	40	28	50	1.14	0.0	4	8,350	e.	26	w.	9	19	7	3.0
Yuma.	141	9	54	29.85	30.00	-0.5	54.3	-9.4	82	1	68	31	18	40	41	43	28	49	0.81	+0.4	2	4,453	n.	39	n.	10	27	2	1.4
Independence.	3,910	11	42	26.00	30.03	-0.4	43.2	-2.7	71	1	56	21	30	39	32	17	38	0.06	-0.8	1	...	n.	23	4	4	2.1	T.		
Needles.	488	4	29.49	30.01	-0.5	50.8	-2.7	78	2	64	28	16	37	38	26	14	3	...	3	...	16	8	7	...	0.0	0.0			
<i>Middle Plateau.</i>																													
Reno.	4,532	74	81	25.54	30.17	+0.04	33.3	+3.8	60	1	49	12	27	24	38	30	20	55	0.13	-1.8	3	4,086	w.	40	w...	7	17	9	5.0
Tonopah.	6,000	12	20	24.05	30.11	-0.5	31.6	-2.9	58	2	39	6	10	24	21	27	19	60	0.22	-0.5	3	7,212	w.	37	nw.	9	21	7	2.7
Winnebucca.	4,344	18	56	25.68	30.17	+0.1	31.8	+3.0	61	2	44	-1	10	20	44	27	22	68	1.04	-0.6	6	5,188	w.	28	nw.	26	7	11	13
Modena.	5,479	10	43	24.58	30.05	-0.5	28.2	+0.7	63	5	43	0	21	14	43	23	14	59	0.11	-0.6	7	7,303	w.	39	nw.	18	16	6	4.0
Salt Lake City.	4,310	173	203	25.61	30.08	-0.7	30.4	+1.8	53	2	3	10	19	24	22	28	24	78	3.39	+2.5	17	4,091	sc.	21	nw.	29	5	12	14
Grand Junction.	4,602	82	95	25.35	30.03	-0.3	23.2	-1.7	58	2	33	1	22	14	34	21	17	78	1.18	+0.7	14	3,667	se.	21	se.	11	10	11	10
<i>Northern Plateau.</i>																													
Baker.	3,471	48	53	26.48	30.15	-0.01	28.8	+4.9	54	1	33	-9	31	22	24	27	24	81	1.03	+0.6	17	3,937	se.	27	nw.	9	6	6	19
Boise.	2,739	78	86	27.23	30.16	-0.8	34.4	+5.1	53	1	41	9	31	28	22	32	28	78	2.27	+0.4	18	3,511	nw.	33	nw.	29	5	22	20
Lewiston.	757	40	48	29.29	30.12	-0.4	35.4	+1.9	59	1	42	6	31	30	21	21	32	80	3.12	+1.5	30	2,580	e.	30	sw.	28	3	23	15
Pocatello.	4,477	60	63	25.44	30.08	-1.2	27.6	+2.5	57	3	35	-7	31	29	29	25	33	80	1.94	+1.3	17	8,327	se.	40	sw.	29	3	19	19
Spokane.	1,920	101	110	26.00	30.11	-0.1	31.6	+4.9	62	1	37	3	31	27	24	33	33	78	0.06	-0.6	16	4,045	sw.	34	sw.	28	4	4	23

TABLE II.—Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during January, 1918, at all stations furnished with self-registering gauges.

\* Self-register not in use.

† Record partly estimated.

**†** No precipitation occurred during month.

TABLE II.—Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during January, 1918, at all stations furnished with self-registering gages—Continued.

\* Self-register not in use.

<sup>†</sup> Record partly estimated.

No precipitation occurred during month

TABLE III.—*Data furnished by the Canadian Meteorological Service, January, 1918.*

Stations.	Altitude above M. S. L.*	Pressure.			Temperature.					Precipitation.			
		Jan. 1, 1918.	Station, reduced to mean of 24 hours.	Sealevel, reduced to mean of 24 hours.	Depart- ture from normal.	Mean max. + mean min. + 2.	Depart- ture from normal.	Mean maxi- mum.	Mean mini- mum.	Highest.	Lowest.	Total.	Depart- ture from normal.
	Feet.	Inches.	Inches.	Inches.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	Inches.	Inches.
St. Johns, N. F.	125	29.34	29.48	-0.33	29.4	+ 5.6	34.0	24.8	46	10	4.58	-1.33	15.0
Sydney, C. B. I.	48	29.62	29.66	-0.27	21.8	+ 1.3	30.6	13.0	43	-10	5.97	+0.87	26.5
Halifax, N. S.	88	29.53	21.69	- .23	20.9	- 0.9	29.0	12.8	41	- 8	3.59	-2.18	15.1
Yarmouth, N. S.	65	29.63	29.70	- .30	22.0	- 4.3	27.7	16.3	41	4	3.41	-2.00	22.9
Charlottetown, P. E. I.	38	29.62	29.66	- .30	16.5	- 0.5	23.0	10.1	42	- 9	2.78	-1.18	13.4
Chatham, N. B.	28	29.69	29.72	-0.25	11.1	+ 1.3	20.8	1.3	48	-26	3.78	+0.19	34.6
Father Point, Que.	20	29.57	29.60	- .38	8.2	+ 0.2	14.0	2.4	31	-14	2.49	-0.36	24.9
Quebec, Que.	296	29.47	29.51	- .21	6.1	- 3.0	13.2	- 1.0	34	-23	3.11	-0.90	31.1
Montreal, Que.	187	29.64	29.57	- .17	7.6	- 4.1	13.5	1.8	34	-19	3.40	-0.33	34.0
Stonecliffe, Ont.	489	29.23	29.88	- .14	2.7	- 3.7	11.5	- 6.1	22	-36	1.82	-0.50	18.2
Ottawa, Ont.	236	29.60	29.88	-0.15	5.8	- 3.8	14.9	- 3.3	29	-26	3.17	+0.18	31.7
Kingston, Ont.	235	29.57	29.01	- .14	8.7	- 8.4	17.7	- 0.3	35	-16	1.86	-1.59	18.4
Toronto, Ont.	379	29.47	29.01	- .14	13.2	- 3.2	20.4	6.0	33	- 8	2.30	-0.62	23.0
White River, Ont.	1,244	28.46	29.86	- .15	- 5.8	- 5.4	6.8	-18.4	19	-52	1.61	-0.08	16.1
Port Stanley, Ont.	582	29.26	29.94	- .13	12.5	- 9.7	20.0	5.0	35	- 8	2.49	-0.50	22.5
Southampton, Ont.	656	29.10	-----	-----	9.2	-11.2	16.9	1.5	32	-13	4.29	+0.24	42.9
Parry Sound, Ont.	688	29.14	29.88	-0.13	5.0	- 8.8	14.3	- 4.2	25	-20	6.90	+2.82	69.0
Port Arthur, Ont.	644	29.19	29.05	- .12	2.0	- 1.1	10.7	- 6.6	28	-30	0.34	-0.48	3.4
Winnipeg, Man.	760	29.19	30.10	- .01	- 5.2	+ 1.6	2.0	-12.5	22	-37	0.81	-0.07	8.1
Minnedosa, Man.	1,690	28.13	30.07	- .03	- 5.0	+ 2.2	4.6	-14.5	32	-43	0.42	-0.38	4.2
Qu'Appelle, Sask.	2,115	27.68	30.09	+ 6.01	- 4.0	- 0.2	4.9	-13.0	41	-36	1.09	+0.59	10.9
Medicine Hat, Alberta.	2,144	27.67	30.06	- .01	9.8	+ 4.3	19.3	0.4	48	-42	1.91	+1.24	18.1
Swift Current, Sask.	2,392	27.36	30.10	+ .01	4.1	+ 1.0	13.4	- 5.3	50	-38	0.96	+0.32	9.6
Calgary, Alberta.	3,428	26.36	30.08	+ .05	13.0	+ 4.6	24.5	1.8	54	-24	0.30	-0.23	3.0
Banff, Alberta.	4,521	26.28	30.07	+ .07	14.6	+ 2.5	23.4	5.9	48	-40	0.88	-0.31	7.9
Edmonton, Alberta.	2,150	27.65	30.07	+ 0.04	5.3	+ 3.5	15.1	- 4.5	44	-43	1.44	+0.76	14.4
Prince Albert, Sask.	1,450	28.49	30.17	+ .08	- 6.0	+ 2.4	3.5	-15.5	40	-46	0.91	-0.06	9.1
Battleford, Sask.	1,592	28.28	30.15	+ .07	- 4.7	+ 1.2	4.7	-14.1	43	-46	1.51	+1.11	14.9
Kamloops, B. C.	1,262	28.82	30.18	+ .20	25.2	+ 2.3	29.5	20.9	43	-14	1.87	+1.05	16.5
Victoria, B. C.	230	29.83	30.08	+ .11	42.0	+ 3.5	45.8	38.3	56	23	4.05	-1.34	T.
Barkerville, B. C.	4,180	25.60	30.02	+ 0.13	19.2	+ 1.4	25.5	13.0	40	22	7.65	+5.05	64.0
Hamilton, Bermuda.	151	29.82	29.99	- .14	61.4	- 0.6	66.5	56.3	72	51	3.80	-1.14	0.0

• See description of Table III given on p. 48.